



**{In Archive} Re: Fw: Information on ecosystem services and sustainable communities, ideas** 📎

**Thomas Fontaine** to: David Olszyk  
Cc: Bob McKane, Donald Phillips, Nathan Schumaker

11/29/2011 12:36 PM

Archive: This message is being viewed in an archive.

Thanks. Very helpful

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David Olszyk

Hi Tom, Here are some bullets:

11/29/2011 12:02:49 PM

From: David Olszyk/COR/USEPA/US  
To: Thomas Fontaine/COR/USEPA/US@EPA  
Cc: Nathan Schumaker/COR/USEPA/US@EPA, Donald Phillips/COR/USEPA/US@EPA, Bob McKane/COR/USEPA/US@EPA  
Date: 11/29/2011 12:02 PM  
Subject: Fw: Information on ecosystem services and sustainable communities, ideas

Hi Tom,

Here are some bullets:

\* The ecosystem service of wildlife population and habitat regulation is being studied using the Nathan Schumaker's HexSim model as part of the WESP project. It considers climate change and land use/land cover management and modification as the two factors that have the greatest potential to significantly alter ecosystem services within the Willamette River Basin. Efforts have focused mostly on the northern spotted owl, and that effort is an important part of the US FWS's latest recovery planning process. (also see below)

\* In terms of wildlife population and habitat regulation, HexSim will also be used in in zoonotic disease modeling effort to study how the populations of animals carrying infectious diseases can be modified by human-induced disturbances.

\* Don Phillips' urban tree ecosystem services work. Results indicated that publicly owned trees in the Corvallis Urban Growth Boundary provide an estimated \$4 million in annual benefits from: energy savings and avoided air pollutant emissions due to shading of buildings, carbon dioxide sequestration, absorption

of air pollutants, reduction in stormwater runoff and infrastructure requirements, increases in real estate market values

Bullets for WESP/PNW:

- The Willamette Ecosystems Services Project (WESP) is identifying and characterizing ecosystem services in the Willamette River Basin (WRB). The WRB, located in Oregon between the Coast Range and the Cascade Range, has highly productive agricultural and forest areas, and an extensive river network that supplies water for rural and urban populations, plus essential habitat for fish and wildlife.
- The WRB is facing a number of challenges related to ecosystem management. With an anticipated doubling of the population over the next several decades, understanding the impacts of alternative growth management strategies on ecosystem services in the Willamette is vital to ensuring continued provision of ecosystem services.
- Our research is focused on quantifying a suite of key services that address the role of ecosystems in regulating stream water quality and quantity, biological sources of greenhouse gases, wildlife populations and habitat, fish populations and habitat, air quality, and production of agricultural and forest products.
- Our research is designed to address the ESRP's and SHC's decision support objectives at local and national scales to analyze how alternative-future land use and climate scenarios will impact ecosystem services and human health, namely:
  - o Identify critical knowledge gaps in the ecological processes underlying ecosystem services
  - o Map ecosystem services based on current conditions and available data.
  - o Develop broadly applicable models and decision support tools that local and national decision makers can use to assess changes to ecosystem services that will result from climate change, land use/land cover management, and growth and development policies.

For more detailed information about EPA's Willamette Ecosystem Services Project, see Bolte et al., "In Oregon, the EPA calculates nature's worth now and in the future", Solutions Volume 2, Issue 6, pages 35-41.

-----Forwarded by David Olszyk/COR/USEPA/US on 11/29/2011 05:56AM -----

To: Walt Nelson/NEW/USEPA/US@EPA, Thomas Fontaine/COR/USEPA/US@EPA, Tony Olsen/COR/USEPA/US@EPA, Sue Hecht/COR/USEPA/US@EPA, David Olszyk/COR/USEPA/US@EPA, Thomas Connolly/COR/USEPA/US@EPA  
From: Thomas Fontaine/COR/USEPA/US  
Date: 11/28/2011 04:45PM  
Subject: ammunition please

I'm scheduled for an interview on Wednesday with David Holzman, who is a science writer for a variety of journals (*Smithsonian*, *The Atlantic Monthly*, and the *Journal of the National Cancer Institute* among others). He's writing an article for Environmental Health Perspectives (an NIEHS journal) on ecosystem services and sustainable communities. He has already interviewed Linthurst, and Linthurst suggested he contact me about such research we are conducting here in the PNW, including collaborations with Universities and interactions with the general public.

If there are any WED research projects or findings that you want to make sure I mention, please send me a bullet or two. Nothing fancy. My current list includes:

WESP: modeling and decision support systems, linkages with ENVISION

ESRP modeling efforts in general, including scaling issues  
FEGS: final ecosystem goods and services (indicators and monitoring)  
Nitrogen impacts on ES  
Coastal ecosystem services research at Newport  
Ecosystem services in support of human health (ITREE model, human health - eco services -climate change model)

Chances are he'll ask me for names of others at WED who can provide details on specific research topics.

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